

533241

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
27 May 2004 (27.05.2004)

PCT

(10) International Publication Number
WO 2004/044129 A2

(51) International Patent Classification⁷:

C12N

(74) Agent: EINHORN, Gregory, P.; Morrison & Foerster LLP, 3811 Valley Centre Drive, Suite 500, San Diego, CA 92130 (US).

International Application Number:

PCT/US2003/034008

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(72) International Filing Date: 23 October 2003 (23.10.2003)

23) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/424,649 6 November 2002 (06.11.2002) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US 60/424,649 (CIP)
Filed on 6 November 2002 (06.11.2002)

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): DIVERSA CORPORATION [US/US]; 4955 Directors Place, San Diego, CA 92121-1609 (US).

Published:

— without international search report and to be republished upon receipt of that report

(72) Inventor; and

(75) Inventor/Applicant (for US only): CALLEN, Walter [US/US]; Intellectual Property Department, P.O. Box 910550, San Diego, CA 92191-0550 (US).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/044129 A2

(54) Title: XYLOSE ISOMERASES, NUCLEIC ACIDS ENCODING THEM AND METHODS FOR MAKING AND USING THEM

(57) Abstract: In one aspect, the invention provides xylose isomerase enzymes, polynucleotides encoding the enzymes, methods of making and using these polynucleotides and polypeptides. The polypeptides of the invention can be used in a variety of agricultural and industrial contexts. For example, the polypeptides of the invention can be used for converting glucose to fructose or for manufacturing high content fructose syrups in large quantities. Other examples include use of the polypeptides of the invention in confectionary, brewing, alcohol and soft drinks production, and in diabetic foods and sweeteners.